80-414

Supreme Court, U. S.
FILED
SEP 13 1980
MICHAEL RODAK, JR., CLERK

NO. _____

SUPREME COURT OF THE UNITED STATES

_____ TERM

A. T. COLLINS, ET AL PETITIONERS

v.

UNITED STATES OF AMERICA RESPONDENT

ON WRIT OF
CERTIORARI TO THE
UNITED STATES COURT
OF APPEALS FOR THE
SIXTH CIRCUIT

PETITION

CHARLES A. WILLIAMS
Williams, Housman & Sparks
1700 Kentucky Avenue
Paducah, Kentucky 42001
(502) 442-3505

Attorneys for Petitioners

THE QUESTION PRESENTED FOR REVIEW

Whether the Findings of Fact of the District Court, with respect to proximate cause and intervening negligence, were in such conflict with the evidence that they should be set aside as clearly erroneous under F.R.C.P. 52(a).

LIST OF PARTIES

In the proceeding in the United States Court of Appeals for the Sixth Circuit, the plaintiffs-appellants were: A. T. COLLINS; BARBARA BOWLING JACKSON, Admx. of the Estate of GROVER BOWLING, JR., Deceased; SUSIE BUSH, Admx. of the Estate of TEDDY BUSH, Deceased; MILDRED COLLINS GRAY, Admx. of the Estate of KENOPLE COLLINS, Deceased; RUBY GHENT HOSKINS, Admx. of the Estate of CARL GHENT, Deceased; EMILIE GIBSON, Admx. of the Estate of ALFORD GIBSON, Deceased; MARTHA GRIFFIN BOWLING, Admx. of the Estate of THEO GRIFFIN, Deceased; EDITH HARRIS, Admx. of the Estate of LESTER HARRIS, Deceased; ESTILL HENSON, Admx. of the Estate of DELBERT HENSON, Deceased; LITHA HENSON WAGERS, Admx. of the Estate of PRICE HENSON, Deceased; MAE HIBBARD, Admx. of the Estate of WALTER HIBBARD,

Deceased; ALVIE HOLLAND, Admx. of the Estate of GEORGE HOLLAND, Deceased; CHARLENE HOSKINS, Admx. of the Estate of BEN HOSKINS, Deceased; BRENDA HOSKINS BOWLING, Admx. of the Estate of FRANK HOSKINS, Deceased; MARY CATHERINE JONES, Admx. of the Estate of RUFUS JONES, Deceased; GERALDINE MINTON, Admx. of the Estate of JAMES MINTON, Deceased; MOSSIE MORGAN ARNETT, Admx. of the Estate of RUSSELL MORGAN, Deceased; BONNIE MAE ROBERTS, Admx. of the Estate of STANLEY ROBERTS, Deceased; BOBBIE SIZEMORE, Admx. of the Estate of ARNOLD SIZEMORE, Deceased; BETTY FAYE SMITH, Admx. of the Estate of WILBURN SMITH, Deceased; BARBARA SPURLOCK, Admx. of the Estate of JEFFIE SPURLOCK, Deceased; BETTY LEE WAGERS, Admx. of the Estate of ALBERT WAGERS, Deceased; ELVIA WAGERS, Admx. of

the Estate of ARMOND WAGERS, Deceased; JUANITA WAGERS NOLAN, Admx. of the Estate of ARNOLD WAGERS, Deceased; BRENDA WHITE ARNETT, Admx. of the Estate of ELMER WHITE, Deceased; LULA WHITEHEAD, Admx. of the Estate of ANDREW (DECKER) WHITEHEAD, Deceased. The defendant-appellee was the United States of America.

All plaintiffs-appellants listed above are petitioners herein.

TABLE OF CONTENTS

	PAGE
Question Presented for Review	i
List of Parties	ii-iv
Table of Contents	v-vi
Table of Cases, Statutes and Other Authorities Cited	vii-viii
Opinions in Courts Below	ix
Grounds on which Jurisdiction of this Court is Invoked	x
Statutes and Regulations Involved therein	xi-xix
FRCP 52(a)	xi
28 U.S.C. § 1346(b)	xii-xiii
30 U.S.C. § 801(a), (g) (1970)	xiii-xv
30 U.S.C. § 813(a) (1970)	xv-xvi
30 U.S.C. § 864 (1970)	xvi-xix
Statement of the Case	1-26
History of Litigation	1-3
Statement of Pertinent Facts	3-9
District Court Decision	9-10

Appellate Court Decision	10-11
Reasons for Granting the Writ	11-26
Conclusion	26-29
Certificate	30
Appendix Index	31
Appendix	A1-A95

TABLE OF CASES, STATUTES, AND OTHER AUTHORITIES CITED

	Page
Bianchini v. Humble Pipe Line Co., 480 F.2d 251 (5th Cir. 1973) rehrg. den. 480 F.2d 1402	12
Glapion v. MS Journalist, 487 F.2d 1252 (5th Cir. 1973)	12
Glasgow Realty Company v. Melcalfe, 482 S.W.2d 750 (Ky. 1972)	10, 17, 24
Johnson v. Kosmos Portland Cement Co., 64 F.2d 193 (6th Cir. 1933)	17, 19, 20, 21
T. A. Jones Construction Co. v. Englert Engineering Co., 438 F.2d 3 (6th Cir. 1971)	11
Krasnov v. Dinan, 465 F.2d 1298 (3rd Cir. 1972)	11
Spivey v. Sheeler, 514 S.W.2d 667 (Ky. 1974)	10
United States v. Kaplan, 277 F.2d 405 (5th Cir. 1960)	12

United States v. United States Gypsum Co., 333 U.S. 364, 395, 92 L.Ed. 746, 766, 68 S.Ct. 525 (1948) 11

W.R.B. Corp. v. Geer, 313 F.2d 750 (5th Cir. 1963) 12

MISCELLANEOUS:

F.R.C.P. 52(a) 11

28 U.S.C. § 1346(b), 2671 et seq. 1

30 U.S.C. § 801 et. seq. (1970) 2

30 U.S.C. § 801(a) (1970) 3

30 U.S.C. § 802(g) (1970) 4

30 U.S.C. § 802(j) (1970) 4

30 U.S.C. § 813(a) (1970) 4

30 U.S.C. § 814(a) (1970) 5

30 U.S.C. §§ 861 et seq. (1970) 5

30 U.S.C. § 864(d) (1970) 5

30 U.S.C. § 878(1) (1970) 6

OPINIONS, ORDERS AND JUDGMENTS IN COURTS BELOW

The May 22, 1980, Opinion of the United States Court of Appeals for the Sixth Circuit in this case was reported at 621 F.2d 832. It is reproduced herein at page A1.

GOUNDS ON WHICH JURISDICTION OF THIS COURT IS INVOKED

The Judgment sought to be reviewed and the Opinion on which it is based were filed in the United States Court of Appeals for the Sixth Circuit on May 22, 1980. Upon plaintiff's Motion for Rehearing, an Order denying said Motion was filed in that Court on June 16, 1980. The Judgment, Opinion and Order are reproduced in the Appendix hereto, at pages A93, A1 and A95, respectively.

Jurisdiction is conferred upon this Court by 28 U.S.C. § 1254(1).

STATUTES AND REGULATIONS INVOLVED HEREIN

FRCP 52. Findings by the Court

(a) Effect. In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon, and judgment shall be entered pursuant to Rule 58; and in granting or refusing interlocutory injunctions the court shall similarly set forth the findings of fact and conclusions of law which constitute the grounds of its action. Requests for findings are not necessary for purposes of review. Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses. The findings of a master, to the extent that the court

adopts them shall be considered as the findings of the court. If an opinion or memorandum of decision is filed, it will be sufficient if the findings of fact and conclusions of law appear therein. Findings of fact and conclusions of law are unnecessary on decisions of motions under Rule 12 or 56 or any other motion except as provided in Rule 41(b).

---

28 U.S.C. § 1346. United States as defendant

* * *

(b) Subject to the provisions of chapter 171 of this title [28 USC §§ 2671 et seq.], the district courts, together with the United States District Court for the District of the Canal Zone and the District Court of the Virgin Islands, shall have exclusive jurisdiction of civil actions on claims against the

United States, for money damages, accruing on and after January 1, 1945, for injury or loss of property, or personal injury or death caused by the negligent or wrongful act or omission of any employee of the government while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred.

---

30 USC § 801. (1970) Congressional findings and declaration of purpose

Congress declares that--

(a) the first priority and concern of all in the coal mining industry must be the health and safety of its most precious resource--the miner;

* * *

(g) it is the purpose of this Act (1) to establish interim mandatory health and safety standards and to direct the Secretary of Health, Education, and Welfare and the Secretary of Interior to develop and promulgate improved mandatory health or safety standards to protect the health and safety of the Nation's coal miners; (2) to require that each operator of a coal mine and every miner in such mine comply with such standards; (3) to cooperate with, and provide assistance to, the States in the development and enforcement of effective State coal mine health and safety programs; and (4) to improve and expand, in cooperation with the States and the coal mining industry, research and development and training programs aimed at preventing coal mine accidents and occupationally caused

diseases in the industry.

---

30 U.S.C. § 813 (1970)

"(a) Authorized representatives of the Secretary shall make frequent inspections and investigations in coal mines each year for the purpose of (1) obtaining, utilizing, and disseminating information relating to health and safety conditions, the causes of accidents and the causes of diseases and physical impairments originating in such mines, (2) gathering information with respect to mandatory health or safety standards, (3) determining whether an imminent danger exists, and (4) determining whether or not there is compliance with the mandatory health or safety standards or with any notice, order, or decision issued under this title. In carrying out the requirements

of clauses (3) and (4) of this subsection, no advance notice of an inspection shall be provided to any person. In carrying out the requirements of clauses (3) and (4) of this subsection in each underground coal mine, such representatives shall make inspections of the entire mine at least four times a year.

---

30 USC § 864. (1970) Combustible materials and rock dusting

(a) Accumulations; maintenance. Coal dust, including float coal deposited on rock-dusted surfaces, loose coal, and other combustible materials, shall be cleaned up and not be permitted to accumulate in active workings, or on electric equipment therein.

(b) Abatement of hazards in active working areas. Where underground mining

operations in active workings create or raise excessive amounts of dust, water or water with a wetting agent added to it, or other no less effective methods approved by the Secretary or his authorized representative, shall be used to abate such dust. In working places, particularly in distances less than forty feet from the face, water, with or without a wetting agent, or other no less effective methods approved by the Secretary or his authorized representative, shall be applied to coal dust on the ribs, roof, and floor to reduce dispersibility and to minimize the explosion hazard.

(c) Rock dusting of all areas of underground mines; exceptions. All underground areas of a coal mine, except those areas in which the dust is too wet

or too high in incombustible content to propagate an explosion, shall be rock dusted to within forty feet of all working faces, unless such areas are inaccessible or unsafe to enter or unless the Secretary or his authorized representative permits an exception upon his finding that such exception will not pose a hazard to the miners. All crosscuts that are less than forty feet from a working face shall also be rock dusted. (d) Distribution of rock dust; places; quantities. Where rock dust is required to be applied, it shall be distributed upon the top, floor, and sides of all underground areas of a coal mine and maintained in such quantities that the incombustible content of the combined coal dust, rock dust, and other dust shall be not less than 65 per centum, but the incombustible content in the return

aircourses shall be no less than 80 per centum. Where methane is present in any ventilating current, the per centum of incombustible content of such combined dusts shall be increased 1.0 and 0.4 per centum for each 0.1 per centum of methane where 65 and 80 per centum, respectively, of incombustibles are required.

(e) Limitation of applicability. Subsections (b) through (d) of this section shall not apply to underground anthracite mines.

STATEMENT OF THE CASE

History of Litigation

On December 30, 1970, an explosion occurred in two interconnected underground coal mines near Hyden, Leslie County, Kentucky. As a result of the explosion, 38 miners were killed and one miner was injured. This action was initiated by the injured miner, A. T. Collins, and the survivors of 25 miners who died that day.

The action was brought under the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b), 2671 et seq, on the theory that the government, acting through the Secretary of the Interior and the Bureau of Mines, negligently failed to properly inspect the mines and perform its mandatory duties to enforce mandatory safety standards pursuant to the Federal Coal Mine Health and Safety Act of 1969, 30

U.S.C. §§ 801 et seq.

Trial was held without a jury before the United States District Court for the Eastern District of Kentucky, Honorable H. David Hermansdorfer presiding. The Court concluded that the government's failure to properly inspect the mines was not the proximate cause of the explosion and injuries, and that, even if a causal connection were established, there was intervening and superseding negligence on the part of the mine operators.

The Judgment of the District Court was appealed to the United States Court of Appeals for the Sixth Circuit. That Court held that the Findings of Fact by the District Court were not clearly erroneous, and the decision was affirmed. A subsequent Motion for Rehearing was denied.

This Petition followed.

Statement of Pertinent Facts

In the spring of 1970, the Finley Coal Company opened two new mines, numbers 15 and 16, near Hyden, Leslie County, Kentucky. The mines were soon thereafter connected, and they operated as one mine during the relevant period.

On March 30, 1970, the Federal Mine Health and Safety Act of 1969 became law. This law was enacted to protect the health and safety of the industry's "most precious resource -- the miner". 30 U.S.C. § 801(a) (1970). The Secretary of the Interior was required to develop and promulgate improved mandatory safety standards for the protection of life and the prevention of injuries in coal mines, to compel compliance with these standards by mine operators, and to develop research and training programs aimed at

preventing accidents. 30 U.S.C. § 801(g) (1970).

The Secretary was also required to make "frequent inspections and investigations in coal mines each year". 30 U.S.C. § 813(a) (1970). Such inspections were intended to gather information relating to safety conditions and the causes of accidents, to determine whether there was compliance with the mandatory safety requirements of the Act, and to determine whether an imminent danger exists. "Imminent danger" is defined in the Act as "any condition or practice in a coal mine which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated". 30 U.S.C. § 802(j) (1970). An inspector was required to order withdrawal of all personnel from

any area of the mine where the inspector found an "imminent danger" until the danger was abated. 30 U.S.C. § 814(a) (1970).

The 1969 Act also establishes interim mandatory health or safety standards. The safety standards involve roof supports, ventilation, combustible materials, explosives, and similar matters. 30 U.S.C. §§ 861 et seq. Of special importance to this case are the safety standards relating to combustible materials and "rock dusting", 30 U.S.C. § 864(d), among others. Section 864(d) requires mine operators to "rock dust" all underground areas of a mine so that combustible coal dust is combined with rock dust or other incombustible dusts to the extent that the incombustible matter constitutes no less than 65% of all dust present and no less than 80% in return

air-courses.

During the period prior to the explosion on December 30, 1970, inspectors from the Bureau performed one complete and one spot inspection of Mine 16 and six spot inspections of Mine 15. In reality, of course, no complete inspection was ever performed, since a complete inspection would properly have included the entire interconnected complex which began separately as Mines 15 and 16. It was the law, 30 U.S.C. § 878 (1) and Bureau policy manual (Plaintiffs' Exhibit 9, p. 77) that the interconnected mines should have been treated as a single mine. No explanation was ever given for this failure. These inspections covered a period from June 19, 1970 through December 21, 1970. The District Court found that the Bureau had failed to comply with its statutory duty

of making four complete inspections of the mines per year. In the inspections of June 19, August 14, and October 19-20 and 22, 1970, citations were written for rock dusting violations. These violations were later abated. In the inspection of June 19, 1970, rock dusting violations were in part responsible for the issuance of an imminent danger order. (Plaintiffs' Exhibit 5, Appendix F)

On October 16, 1970, an inspector issued notices granting the operator additional time to abate three violations, cited during the October 19 inspection, pertaining to a ground check monitor and personnel requirements. The operator was given until December 28, 1970, to abate these violations. On October 19, 1970, an inspector made a spot inspection of Number 15 Mine and

issued five notices of violation, required to be abated by December 22, 1970. Although it is the policy of the Bureau to return to a mine on the date set for abatement of violations, such follow up checks were not performed by the inspectors. A spot inspection on December 21, 1970, was limited to the issue of filing of a ventilation plan, and this visit did not include any time underground by the inspector.

On the morning of December 30, 1970, the operator was in the process of making a new loading point or "boom hole" in the Number 16 Mine. In order to create the boom hole, a portion of the mine roof approximately 18 feet long and 28 feet wide was drilled with over 100 holes. Each hole was four inches in diameter and extended into the roof approximately thirty inches. These holes were filled

with explosives and stemmed by paper wadding. There was evidence that primacord, a high explosive not permissible underground, was used as the igniting agent. The stage for the explosion was thus set. The shot was detonated by either a shot firing unit, a power cable, or the battery connections of a nearby tractor. All the evidence, including the report of the Bureau's investigation of the disaster (Plaintiffs' Exhibit 5), is that the explosion was propagated through Mines No. 15 and 16 by combustible coal dust that had been thrown into suspension by the blasting of the boom hole, which dust was then ignited by either the Primacord or the glowing remains of paper wadding.

The District Court Decision

The Court agreed with plaintiffs

that the Bureau of Mines had violated its duties to make four complete inspections of the mines each year. However, the Court held that the plaintiffs did not establish that the failure of the government to inspect the mine was a proximate cause of the injury and deaths. Cited as cases requiring foreseeability under Kentucky law were Spivey v. Sheeler, 514 S.W.2d 667 (Ky. 1974), and Glasgow Realty Company v. Metcalfe, 482 S.W.2d 750 (Ky. 1972). The Court further found that unforeseeable superseding and intervening negligent acts of the coal mining operators would have prevented recovery by the plaintiffs even if proximate cause had been established.

The Appellate Court Decision

The U. S. Court of Appeals for the Sixth Circuit affirmed the decision of the District Court on the ground that the

Findings of Fact were not clearly erroneous.

REASONS FOR GRANTING THE WRIT

The principle of review of fact finding under F.R.C.P. 52(a) allows facts found by a District Court to be set aside only when "clearly erroneous". This has been interpreted to allow such facts to be set aside when the reviewing Court "is left with the definite and firm conviction that a mistake has been committed". United States v. United States Gypsum Co., 333 U.S. 364, 395, 92 L.Ed. 746, 766, 68 S.Ct. 525 (1948); J. A. Jones Construction Co. v. Englert Engineering Co., 438 F.2d 3 (6th Cir. 1971). Findings will not be allowed to stand where they bear no rational relationship to the supporting evidentiary data. Krasnov v. Dinan, 465 F.2d 1298 (3rd Cir. 1972). It has also been held that the

"clearly erroneous" standard has been met when the result does not reflect the truth and right of the case. United States v. Kaplan, 277 F.2d 405 (5th Cir. 1960); W.R.B. Corp. v. Geer, 313 F.2d 750 (5th Cir. 1963); Bianchini v. Humble Pipe Line Co., 480 F.2d 251 (5th Cir. 1973), rehrg. den. 478 F.2d 1402; Glapion v. MS Journalist, 487 F.2d 1252 (5th Cir. 1973).

In this case, the Appellate Court refused to apply such a standard to the District Court's findings, in contravention of the standard established by the Supreme Court and Courts of Appeals decisions cited above, when it affirmed this case. The Opinion of the Appellate Court herein merely repeated the findings of the District Court, without examining the evidentiary bases for those findings.

Any close scrutiny of the record is replaced by the cryptic statement that "the record is clear and stands for itself".

The plaintiffs contend that the decision of the District Court is no more than a grand theory of the Court's own design, its main pillars not supported by the expert testimony or the reports of investigations made after the disaster.

The Court first concluded that there was no evidence to show that the failure of the defendants to fully inspect the interconnected Mines No. 15 and 16, as required by the Act, was a proximate cause of the explosion and the injuries and death resulting therefrom. The Court expresses its doubt that the agency's failure to inspect resulted in excessive and uninerted coal dust in the mine immediately before the explosion. It should

be noted that the Bureau's investigation found excessive and uninerted coal dust after the explosion. (Plaintiffs' Exhibit 5, pp. 20-21). There is much discussion by the Court of the difficulty of pinning down the meaning of the word "excessive", which discussion includes a recitation of irrelevant industry standards.

The evidence was, as supported by the testimony of the experts, that the safety standard for such coal dust is inertion with incombustible rock dust to 65% incombustible matter, or 80% in return airways, that if the standard is met, ignition and propogation will not occur (T.E., Mitchell, 686-7), and that the 65% level of inertion is reached, as a practical matter, when all visible coal dust is covered with rock dust (T.E.,

Sinha, 248-50).

The Court makes the very curious observation that, had the agency made timely inspections of the mine and cited the operator for dust violations, such violations simply would be abated by application of inerting quantities of rock dust. Assuming this is so, and assuming that the inspector would not have found the condition abated until the rock dusting had covered all visible coal dust, as was commonly done, then the expert testimony would lead only to the conclusion that ignition and propagation would not have occurred in that properly dusted mine. This was also the testimony of James Westfield, Assistant Director, Coal Mine Health and Safety, Bureau of Mines in Congressional hearings on March 9, 1971 (Plaintiffs' Requests for Admissions No. 2, October 12, 1976).

The conclusion of the Court of course is entirely the opposite. The Opinion concludes that "the explosion would have occurred even if the coal dust present in the mine had been adequately inerted". Such a finding flies in the face of evidence from both experts that, if properly cleaned and dusted, there would have been no explosion (T. E., Mitchell, 565-6; T. E., Sinha, 153).

The Court's second conclusion is that, even if a causal connection could be established between the failure to inspect and the condition of excessive and uninerted coal dust in Mines 15 and 16, there was intervening and superseding negligence on the part of the mine operators. These included the detonation of unusually large amounts of explosives simultaneously, use of primacord and paper stemming, and failure to clear the

mines of all non-essential personnel. The Court found these acts unforeseeable by the government agency, and concluded that the later acts broke the chain of causation.

The District Court included an Appendix to its Opinion, which is also attached to the Opinion of the Appellate Court. Such an Appendix was deemed necessary due to the plaintiff's reliance on the case of Johnson v. Kosmos Portland Cement Co., 64 F.2d 193 (6th Cir. 1933). The plaintiffs had cited that case for the proposition that an explosion was a foreseeable result even though the particular cause of the explosion was not. The Court considered that proposition worthy of attention. Such a premise was further supported by a Kentucky case cited by the District Court, Glasgow

Realty Company v. Metcalfe, supra. There, a plaintiff sued for damages sustained when window glass fell from a building owned by the defendant. In dealing with the question of foreseeability, the court said, 482 S.W.2d at 758:

> ". . . Appellant argues that even if it was guilty of some fault it could not anticipate or foresee that a stranger wold come into its building and apply sufficient force to break out a glass window, and further that appellant would not reasonably foresee the extent of injury from falling, shattered glass, or that plaintiff would sustain a freak injury by being trampled over by the stampeding crowd.
>
> "This question was ably discussed in Miller v. Mills, Ky., 257 S.W.2d 520, 522, wherein the court said:
>
> > "'We think it is clear that so far as foreseeability enters into the question of liability for negligence, it is not required that the particular, precise form of injury be foreseeable--it is sufficient if the probability of injury of some kind to persons within the natural range of effect of the

> alleged negligent act could be foreseen. . . .'

"The judgment is affirmed."

In Johnson v. Kosmos Portland Cement Co., supra, a barge was not properly cleaned by the defendant cement company, leaving a residue of gases in the barge. Later, while the workmen were performing duties in the barge, a bolt of lightning ignited the residual gases in the barge, causing an explosion. Although such an accident had never before been recorded, the Court held that the catastrophe was the natural and probable consequence of the defendant's negligent act.

Two factual circumstances make the instant case similar to the Johnson case. In Johnson, "[a]ny one of a number of expectable circumstances might have brought about the type of injuries which resulted; a lighted match, the flame of

he acetylene torch, a heated rivet, a spark produced by friction of a tool, or boot, and so on." As for the mine explosion, there was testimony that there were several potential sources of ignition. These included a lighted match or cigarette, a short in some of the electrical equipment, (T.E., Mitchell, 575) as well as primacord or the use of unstemmed holes or permissible explosive used in an impermissible manner. There was also expert testimony that the use of perfectly permissible explosives, unless the area were adequately cleaned and inerted, was a possible source of ignition of the dust cloud resulting from the blasting of the boom hole. (T.E., Mitchell, 564).

Second, in Johnson, the Court noted that had there been no accumulation of gases, whatever might have been the

result of the lightning, the explosion would not have occurred. In the case of the mine explosion, the uncontradicted evidence was that had there been no accumulation of uninerted coal dust, whatever the method of igniting the explosives, no deaths would have occurred.

The District Court, in its Appendix to the Opinion, apparently intended to make factual findings sufficient to distinguish the above two factual similarities between Johnson and the instant case. The Court desired to show that coal dust, although excessive and uninerted, could not be ignited by other means to produce the explosion, and, second, that the forces generated by the impermissible blasting methods would have caused the explosion here even if the coal dust conditions, credited with propagation of the explosion throughout the

mines, had been abated through inspections, citations, and rock dusting.

In its attempt to prove the first proposition, the Court notes that this boom hole could have been shot safely by permissible means. Though true, as every second cause itself might have been performed in such a way as not to turn a dangerous condition into an injurious incident, it does not show that the condition was not susceptible to several possible ignition sources. We have referred to those alternative sources above. That a second actor might have acted responsibly and without negligence does not render that second negligent act unforeseeable.

The point of prohibiting excessive dust and inerting that dust which inevitably occurs is to reduce the danger of

ignition and explosion inherent in mining a combustible substance from the ground. The constant admixture of coal surfaces and coal dust with moving heavy equipment, powered by high-voltage trailing cables, which work routine is punctuated by detonations of explosives, requires that dust control measures be strictly enforced.

On August 12, 1970, a short in a trailing cable on a drill in Mine No. 15 caused coal dust on the drill to ignite. (Plaintiffs' Exhibit 5, App. F) The fire spread to a rubber container holding electric detonators or cartridges of explosives, and the resulting blast injured two miners. Although the precise mechanism of the accident might not have been predicted, the accumulation of combustible coal dust, which an investigating committee recommended be prevented

in the future, set the stage for any of a number of ignition sources found in mining to act on the condition and cause injury. In this minor accident, which luckily spread no further than the immediate area, as well as in the disastrous explosion which is the subject of this case, the language of Glasgow Realty Company v. Metcalfe, supra, applies: the probability of injury of some kind to persons within the natural range of effect of the alleged negligent act could be foreseen.

In support of its second point, the Court assessed the forces associated with the fall of rock from the boom hole, excluding explosive forces, and concluded they were insufficient to have caused the turbulent dust cloud necessary for this explosion.

The Court also assessed the forces associated with the impermissible firing which took place at Mines No. 15 and 16, and concluded that the forces were sufficient to raise the dust particles to explosive velocities and to ignite them, thus propagating throughout the mine. Although this latter conclusion was made without any expert attempting to actually calculate the forces generated, that conclusion is indeed the thrust of the expert testimony and the report of investigations.

The scenario that was left out of the Court's consideration is the case where the forces of falling rock and permissible explosives were combined. The Court apparently implies that these were not of the magnitude necessary to raise the cloud and ignite it. However, the expert Mitchell said that even with per-

missible explosives, absent cleaning and inerting, the forces for an explosion were present and sources of ignition were available from the permissible explosives. (T.E., Mitchell, 563-4).

CONCLUSION

In summary, the District Court Findings of Fact were clearly erroneous in two major respects. First, in finding the forces sufficient, in a primacord and paper stem setting, to cause the explosion, with or without inertion as would be required by proper inspection and citation, the Court ignores the government's expert Mitchell, who said that with cleaning and inertion, such an impermissible shot would not ignite and not propogate. Although the Court picks and chooses among the testimony, pointing out that explosive quantities of dust are found in every mining operation, that

such quantities are found even after vacuuming, and that dust may be ignited even at 93% inertion in extreme cases, the Court is not permitted to shuffle together those items, some of which involve extreme conditions, and which require expert testimony to describe the limits of their applicability, and thus form a conclusion diametrically opposed to that of the expert presented with a hypothetical. Secondly, the Court, as we have shown above, is simply not supported by the evidence in its conclusion that an explosion, caused by any one of a number of means, was not a possible and therefore foreseeable result of the accumulation of excessive and uninerted coal dust. Simply reciting that a boom hole could have been shot safely is no more sufficient here than it would be in any

other case of superseding negligence.

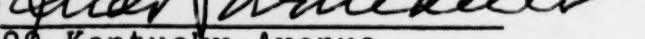
When a Court continues to draw conclusions without evidentiary support, as the District Court did here throughout its Opinion, that Court's findings are clearly erroneous as lacking in any substantial factual basis. Any reviewing Court would be left with a clear and definite impression that a mistake had been made.

Plaintiffs, an injured miner and the representatives of 25 deceased miners, are entitled to have a District Court's findings set aside when they are clearly erroneous, as these are. The Court of Appeals failed to perceive the manner in which the District Court's findings conflicted with the testimony of both experts who testified and with the investigative reports conducted after the accident.

The petitioners request a hearing on the merits in order to demonstrate the complete failure of the District Court to make findings supported by the evidence, and the failure of the Appellate Court to apply the standards developed over the years by interpretation of the phrase "clearly erroneous".

Respectfully submitted,

WILLIAMS, HOUSMAN & SPARKS

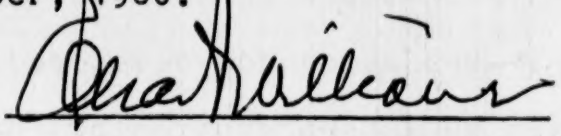
By 

1700 Kentucky Avenue
Paducah, Kentucky 42001

Attorneys for Petitioners

CERTIFICATION

I hereby certify that three copies of this Petition have been served upon all parties required to be served by Rule 28 of this Court by mailing the same, first class postage prepaid, as follows: Solicitor General, Department of Justice, Washington, D. C. 20530. This the 13th day of September, 1980.



APPENDIX

PAGE

May 22, 1980, opinion of the United States Court of Appeals for the Sixth Circuit in No. 78-3125, Reported at 681 F.2d 832..... A1

November 30, 1977, Memorandum Opinion of the United States District Court for the Eastern District of Kentucky, in No. 74-326..... A49

May 22, 1980, Judgment of the United States Court of Appeals for the Sixth Circuit in No. 78-3125..... A93

June 16, 1980, Order Denying Petition for Rehearing in No. 78-3125..... A95

No. 78-3125

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

A. T. COLLINS, ET AL., Plaintiff-Appellants,	APPEAL from the United States District Court for the Eastern District of Kentucky.
v.	
UNITED STATES OF AMERICA, Defendant-Appellee.	

Decided and Filed May 22, 1980

Before CELEBREZZE and BROWN, Circuit Judges, and PHILLIPS, Senior Circuit Judge.

PHILLIPS, Senior Circuit Judge. This action grows out of a tragic explosion in a coal mine near Hyden, Leslie County, Kentucky, on December 30, 1970. Suit for money damages was filed against the

United States by appellant A. T. Collins, who was injured in the explosion, and by the personal representatives of 25 coal miners who were killed in the disaster.

Jurisdiction was asserted under the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b), 2671 et seq. The complaint charged that the proximate cause of the injuries and deaths of the miners was the failure of the United States to inspect the mine in accordance with the requirements of the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. §§ 801 et seq.

District Judge H. David Hermansdorfer, sitting without a jury, held that the plaintiffs did not establish that the failure of the Government to inspect the mine was a proximate cause of the injury and deaths. The district judge further found that unforeseeable superseding and

intervening negligent acts of the coal mine operators would have prevented recovery by the plaintiffs even if proximate cause had been established. We affirm on the ground that the findings of fact of the district judge are not clearly erroneous. Fed. R. Civ. P. 52(a).

The Government contended in the district court and on this appeal that the United States cannot be held liable for money damages under the Federal Tort Claims Act on the basis of allegedly improper or incomplete mine safety inspections conducted pursuant to federal coal mine safety legislation. The district court held that an action lies under the Federal Tort Claims Act under the averments of the complaint in this case. We expressly reserve a decision on

that question and express no views thereon in this opinion. The issue of whether an action lies under the Federal Tort Claims Act under a similar factual situation will be presented squarely to this court in pending case No. 80-3033, in which the Government has appealed from the decision of the district court in Raymer, Administratrix v. United States and Gill, Administratrix v. United States, 455 F. Supp. 165 (W.D. Ky. 1978).

I

On March 30, 1970, the Federal Mine Health & Safety Act of 1969 (the 1969 Act) became law.[1] In the spring of 1970,

---

[1]The 1969 Act was superseded by the Federal Mine Safety and Health Amendments Act of 1977. References in this opinion are to the 1969 Act, which was in effect at all times relevant to this litigation.

---

the Finley Coal Company opened two new

mines, Nos. 15 and 16, near Hyden, Leslie County, Kentucky. Later that year, the two mines were interconnected and operated as one mine.

The primary concern of the 1969 Act is for the health and safety of miners. 30 U.S.C. § 801(a). The Secretary of Health, Education and Welfare and the Secretary of the Interior were directed to develop and promulgate improved mandatory health and safety standards to protect coal miners; to compel coal mine operators' compliance with the standards; to work with the states for such purpose; and to develop research and training programs with the states and the industry aimed at preventing coal mine accidents and occupational diseases. 30 U.S.C. § 801(g).

30 U.S.C. § 801(e) provides:

> [T]he operators of such mines with the assistance of the miners have the primary responsibility to prevent the existence of such conditions and practices in such mines.

Representatives of the Government are required to inspect and investigate coal mines each year for the purpose of acquiring and disseminating information relating to health and safety conditions, and the causes of accidents, diseases and physical impairments originating in the mines; gathering information with respect to mandatory health and safety standards; determining whether there is compliance with the mandatory health or safety requirements. The Government representatives are required to inspect each underground coal mine, in its entirety, "at least four times a year." 30 U.S.C. § 813(a).

The 1969 Act also establishes certain interim mandatory health or safety

standards. The health standards, in part, involve dust control, respiratory equipment, and medical examinations. 30 U.S.C. §§ 841 et seq. The safety standards involve roof supports, ventilation, combustible materials, explosives and similar matters. 30 U.S.C. §§ 861 et seq.

Particularly important to this litigation are the safety standards relating to compustible (sic) materials and "rock dusting", 30 U.S.C. § 864(d), and "permissible explosives" and "shot firing units", 30 U.S.C. § 873(c). Section 864(d) requires mine operators to "rock dust" all underground areas of a mine so that combustible coal dust is diluted with inert dust so that the amount of incompustible (sic) dust constitutes no less than 65 per cent of all dust present

and no less than 80 per cent in return air-courses. Section 873(c) calls for the use of permissible explosives, detonators and blasting devices. It requires that explosives be fired only with permissible shot firing units and that incombustible materials be used for stemming boreholes.

II

During the period from June 19, 1970, through December 21, 1970, inspectors from the Mine Enforcement and Safety Administration (MESA), Bureau of the Mines, Department of the Interior, visited and inspected mines 15 and 16. The district court found that MESA failed to comply with its statutory duty of making four complete inspections of the mines per year and that there had been one complete and one spot inspection of mine 16 and six spot inspections of mine

15. Those inspections had uncovered various violations of mine safety which were ordered abated and subsequently corrected.

At 12:20 p.m. on Wednesday, December 30, 1970, unusually large aggregate amounts of explosives were detonated in mine 16 where a new boom hole was being created. The shock wave of displaced air lifted combustible coal dust into suspension. The coal dust ignited and the ensuing explosion propagated into mine 15. All of the 39 men underground were killed instantly except for appellant Collins, who was injured while in the entry of mine 15.

The plaintiffs, having been denied their administrative claims, filed suit against the United States attributing the explosion to negligent inspection and

enforcement of the 1969 Act and sought damages under the Federal Tort Claims Act.

In his memorandum opinion filed November 30, 1977, District Judge Hermansdorfer set forth the following summary of his findings concerning the explosion.

"On the morning of December 30, 1970 work was begun to establish, by blasting, a loading or transfer point in Finley Mine 16 at entry 6, 1 left. A roof bolting machine was used to drill about one hundred and twenty (120) 'shot' holes, each having a diameter of four (4") inches and extending into the roof material about thirty (30") inches. The area so drilled was eighteen (18') feet long by twenty-eight (28') feet wide. Permissible explosives were inserted

into the holes and stemmed by paper. The aggregate amount of dynamite used was unusually large. Primacord, a high explosive not permissible underground, was used as the igniter and it was detonated by 'either a shot firing unit, power cable, or to the battery connections of a nearby battery-powered tractor' [Plaintiffs' Exhibit 5, p. 16]. The resulting shock wave of displaced air lifted coal dust into suspension in an explosive concentration, and the explosion occurred when the coal dust was ignited.

"To state a claim for actionable negligence under Kentucky common law, plaintiffs must show, by a preponderance of the evidence, that the United States owed a duty to persons

including the plaintiffs, that such duty was breached under circumstances where it was reasonably foreseeable that such breach, in this case by ommission, could pose a risk of injury or death to plaintiffs, and that such foreseeable consequences did result as a natural and probable consequence of such negligence. See Spivey v. Sheeler, Ky., 514 S.W.2d 667 (1974); Glasgow Realty Company v. Metcalfe, Ky., 482 S.W.2d 750 (1972).

"Plaintiffs' theory of liability, as asserted in post-trial brief, argues that MESA's failure to properly discharge its duties of inspection permitted the accumulation of inadequately inerted coal dust and that such dust propagated the explosion throughout Mines 15 and 16 where, if such coal dust has been properly

inerted, the explosion would have been a localized occurrence. However, under the Act the operator of the mine is charged with the 'primary affirmative responsibility to prevent the existence of such [unsafe] conditions and practices . . .', 30 U.S.C. § 801(e). It necessarily follows that to be liable under Kentucky law, MESA would have to have known or be charged with knowledge that the operator would not obey the duties imposed upon him under the Act, as measured by what an ordinarily prudent person in the same or similar situation would have known or be charged with knowing. Bowlin v. General Tire & Rubber Co., Ky., 445 S.W.2d 693, 695 (1969).

"Plaintiffs have established that MESA failed to comply with its statu-

tory duty of making four (4) complete inspections of the Finley mine per year. Mines 15 and 16 were opened, respectively, in March and June of 1970 [Plaintiffs' Exhibit 5, p. 3]. During this period, MESA made only one complete inspection of Mine 16 on October 19, 20-22, 1970, and one spot inspection of the same mine on October 26, 1970. Mine 15 was never completely inspected, but during the nine (9) month period between its opening and the December 30 explosion, MESA conducted six (6) spot inspections. Nevertheless, these inspections may not stand for substantial compliance with the requirement of complete inspections. From these inspections, a total of forty-three (43) notices or citations for violations of the Act's health and safety standards were

issued to the operator by MESA inspectors [Plaintiffs' Exhibit 5, App. F]. From those citations pertaining to coal dust, plaintiffs argue that MESA was put on notice that the mine contained such 'excessive' quantities of coal dust that the conditions in the Finley mines constituted 'an explosion waiting to happen'.

"In Kentucky one may infer, without an evidentiary basis, that MESA knew or should have known that inadequately inerted coal dust would be present in the Finley mines at any given time.[2]

"2Bowlin, supra, at 695. Plaintiffs have the burden of presenting such evidence.

Plaintiffs presented evidence showing that on November 19, 1970, the last spot inspection of Mine 15 before the

explosion, rock dusting was found to be adequate [Plaintiffs' Exhibit 5, p. 9]; 'in accordance with Bureau procedures, the adequacy of rock dust applications was determined visually' [Id.]. A portable rock dusting machine was present in the mines, and when inoperable, rock dusting was performed by hand by a nine (9) man maintenance crew [Id. at 9, 10]. In the inspections of August 14 and October 19-20 and 22, 1970, inadequate rock dusting violations were cited [Act, § 304(b), 30 U.S.C. § 864(b)], but all violations were timely abated [Plaintiffs' Exhibit 5, App. F].

"There is evidence that on the day of the explosion, the men working underground were engaged in the mining of coal. From this fact, it may be

inferred that coal dust was produced as a by-product of the mining operation. However, it requires further circumstantial evidence to infer that the amount of coal dust was excessive or that it was inadequately inerted.

"Plaintiffs' evidence reveals that the normal business at the Finley mines was conducted by two mining shifts and one maintenance shift. The average daily production was fifteen hundred (1500) tons of coal [Plaintiffs' Exhibit 5, p. 2]. Rock dusting operations were performed by the maintenance crew on the last shift of each day. Each morning then began with a production shift [Id., App. F]. Thus, one may infer from such past practice that it is more probable than not that the mine was rock dusted on

the morning of December 30, 1970. The Fire Boss' book was not introduced into evidence, although it is the record diary of a coal operator as to what was actually done, by shift, underground. KRS 352.380 and 352.290. See also 30 C.F.R. § 75.1800 et seq.

"The foreseeability test employed in Kentucky, in terms of a negligently created condition, fixes liability for those consequences which 'might and ought to be foreseen by the wrongdoer as likely to flow from his act'. Spivey v. Sheeler, supra. From the foregoing evidence, I find no basis on which to conclude that MESA's failure to perform the required number of inspections of the Finley mines resulted in the existence of excessive coal dust on the date of the

explosion, nor does the evidence permit the inference that MESA should have foreseen the existence of allegedly excessive and inadequately inerted coal dust in the mine on December 30, 1970.

"It appears to be plaintiffs' argument that the desired conclusion of excessive coal dust is justified by the fact of the explosion per se, under the rationale that if there had not been excessive coal dust in the mine, the explosion would not have occurred or would not have been localized. The evidence does not permit such a simple answer to the problem. The concept of 'excessive amounts of dust' was defined by regulation [30 C.F.R. 75-400-1][3] as 'coal

---

"[3]This regulation has been held

invalid, United States v. Finley Coal Co., 493 F.2d 285, 291 (6th Cir. 1974), cert denied 419 U.S. 1089 (1974).

---

and float dust in the air in such amounts as to create the potential of an explosion hazard' [emphasis added]. The Coal Mine Inspector's Manual, edition of August 1969 [Plaintiffs' Exhibit 9] does not address the question of excessive coal dust directly but rather the adequacy of inerted coal dust in terms of 'observable inadequately inerted coal dust' [Id. at p. 51]. The manual goes no further. By evidence it is shown that the industry standard as to excessive coal dust at the time was in terms of that amount of coal dust in the air which would prevent one from seeing the light from a cap lamp eight (8) feet away [Tr.E., Vol. * * * , at

573]. The issues with respect to coal dust bottom out on two basic considerations: (1) the amount of coal dust in the air in such quantity as to be deemed excessive, and (2) the adequacy of inerting coal dust on all surfaces of the underground mine which is measured by observation, or, by turning such surfaces white by application of rock dust.

"The evidence establishes without contradiction that 5/100 of an ounce of coal dust per cubic foot of air will support combustion [Tr. E., Vol. III, at 555]. This comports with the regulation standard, supra, but makes use of the word 'excessive' somewhat difficult to understand. The word 'excessive' by custom and practice of the industry relates to a cloud of

dust so dense that it obscures light from a cap lamp at eight (8') feet. This standard simply does not relate to explosion potential. Going further, the evidence shows that the government's expert witness, Donald W. Mitchell, actually used a vacuum cleaner on a portion of a different mine and after it was cleaned found sufficient quantities of residual coal dust to propagate an explosion [Tr. E., Vol. III, at 559]. In terms of applying labels, one would have to conclude that the vacuumed mine contained 'excessive' amount of coal dust where 'excessive' describes that quantity of coal dust creating the potential of explosion. By parity of reasoning, every coal mine in which coal has been mined would contain an excessive amount of coal dust as a

matter of probability. Thus, plaintiff's unquantified, standard, 'excessive', has no substantial meaning under the evidence presented in this case.

"The invalidated federal standard for inerting coal dust required that at least sixty-five (65%) percent inert material, typically lime-stone rock dust, be applied. 30 C.F.R. § 75.403. However, as noted previously, MESA inspectors determine the adequacy of rock dusting by visual examination [Plaintiffs' Exhibit 9, p. 52]. Had MESA made timely inspections of the Finley mines and cited the operator for dust violations, such violations simply would be abated by the application of adequately inerting quantities of rock dust. 30 U.S.C.

§ 864; 30 C.F.R. § 75.403.

"Notwithstanding the above standards, the experts in this action agree that conditions in an underground mine are dynamic [Dr. Sinha, Tr. E., Vol. II, at 216; Mr. Mitchell, Tr. E., Vol. IV, at 597]. The amount of coal production appears to be related to the generation of coal dust [Mitchell, Tr. E., Vol. IV, at 598-599]. The dust at one point in time does not preclude an unsafe condition arising shortly thereafter from subsequently generated coal dust. The evidence does not suggest when MESA should have inspected the mines if it had complied with the requirements of Section 813(a) of the Act; such inspections under the evidence of this case are material to underground mine conditions only at the time they are

made and quickly lose any safety significance because of the dynamic conditions of underground mining. Thus, at the outer limit MESA personnel could be chargeable only with foreseeing those circumstances arising within a reasonable time after such inspection. For the reasons which follow, I find that MESA inspectors cannot be held to have reasonably anticipated the actions of the operator of the Finley mine which precipitated the explosion of December 30, 1970, or the equally unreasonable act of the operator in permitting men underground at a time when an impermissible ignition of high explosive was initiated [see Plaintiffs' Exhibit 5, p. 25].

"The shooting of a boom hole in an

underground mine is an ordinary and recurring aspect of coal mining. However, there is no evidence tending to show that the boom hole blasting activities of December 30, 1970 could be described as ordinary or typical. The abnormal aspects of the procedures include the excessive quantity of permissible explosives employed, the impermissible use of paper stemming, the failure to have sequential firing where a substantial amount of powder is involved and the use of an impermissible high explosive as the igniter of the permissible explosives. I find no evidence that any of these aspects of the explosion sequence were foreseeable by MESA; they are clearly beyond the ambit of dynamic occurrences inherent in the Finley mines. Accordingly, I am convinced by the

evidence and all of the circumstances of this case that but for the use of primacord in conjunction with excessive amounts of dynamite, the explosion complained of would not have occurred. I find no evidence tending to support the proposition that such an explosion would have occurred had approved procedures and proper explosives been used to shoot the boom hole.

"Although it is not known how much coal dust was present before the explosion (and I find no basis to support any inference other than one finding that at least the minimum explosive concentration of 5/100 of an ounce of coal dust per cubic foot of air was present), there is simply no evidence that such coal dust was pre-

sent in excessive amounts as that term is used within the mining industry. It is not known nor can one infer from the evidence that the coal dust was in fact adequately rock dusted at the beginning of the morning production shift on December 30, 1970 but MESA's post-accident investigation revealed that some rock dust had been applied in the area where the explosion originated [Plaintiffs' Exhibit 5, pp. 20, 21]. Nevertheless, under the evidence I find that the explosion would have occurred even if the coal dust present in the mine had been adequately inerted. The reasons for this conclusion are more fully discussed in the Appendix, but it may be stated here that the high velocity of air displaced by detonation of the particular explosive materials employed

would necessarily have created a shock wave of sufficient speed and force to have brought adequately inerted coal dust into airborne suspension at a particle velocity sufficient to sustain combustion, and the resulting high temperatures, measured in several thousand degrees Kelvin[4], were sufficient to ignite such airborne coal dust. This clearly would not have been the circumstance attending the weaker ignition sources normally used in shooting boom holes in a permissible manner in an underground coal mine.

"I can find no basis upon which to conclude that MESA inspectors knew or

---

"[4]Kelvin refers to an absolute temperature scale in which zero Kelvin is equivalent to -372° (sic) C; the freezing point of water is 273° K and the boiling point of water is 373° K.

should have known of the wholly irregular practices employed underground at the Finley mines on December 30, 1970.[5] The presence of primacord

---

"[5]The parties have stipulated, Tr. E., Vol. IV., at 678, that MESA inspectors never found any primacord underground prior to the explosion."

---

above ground will not support an inference that it was being used underground [Tr. E., Vol. III, at 545]. All witnesses agree that primacord should not be used in an underground coal mine [Tr. E., Vol. II, at 140; Vol. III, at 544-546]. Even if one should conclude, arguendo, that MESA's failure to inspect was somehow causally connected with the explosion, the abnormal and impermissible practices of the operator

were such as to constitute unforeseeable acts of intervening negligence which superseded any negligence of the MESA inspectors. Hall v. Midwest Bottled Gas Distributors, Inc., Ky., 532 S.W.2d 449 (1975); Lexington Country Club v. Stevenson, Ky., 390 S.W2d 137, 141 (1965); see also House v. Kellerman, Ky., 519 S.W.2d 390 (1965).

Judge Hermansdorfer attached to his memorandum opinion an appendix setting forth his findings of fact in greater detail. The appendix to the memorandum of the district court is made an appendix to this opinion.

We have reviewed the record in this cause in its entirety and with great care, due to the technical nature of the problems and the significant effect our decision will have on the principals

involved in this mine disaster. The record is clear and speaks for itself. The factual determinations of the district court are not clearly erroneous. Assuming arguendo that the inspectors from MESA were culpably negligent in their failure to inspect mines 15 and 16, the findings of the district court are clearly correct that the procedures employed by the coal mine operator on the day of the accident constituted such unforeseeable superseding and intervening acts of negligence as to remove any causal connection between the failure to inspect and the injury and deaths of the miners.

The decision of the district court is affirmed on the basis of the findings of fact of the district judge. As heretofore stated, this court in this opinion

expresses no views with respect to the contention of the Government that there is no cause of action under the Federal Tort Claims Act. No costs are taxed. The parties will bear their own costs on this appeal.

APPENDIX

This appendix is a further statement and analysis of the fact finding responsibility of the Court and is limited to the more technical aspects of the evidence. All of the evidence has been carefully reviewed and the data discussed below are derived principally from the Official Report of Major Mine Explosion Disaster [Plaintiffs' Exhibit 5]; the testimony of Donald William Mitchell, Chief of MESA's Approval and Certification Center and the testimony of Dr. Atmesh Kumar Sinha, Associate Professor, Mining Engineering, Southern Illinois University. My primary areas of concern are to determine the sequential step mechanics of the explosion in terms of the differences between what would have occurred if excessive permissible explosives and primacord had not been

used and what did occur employing these explosives. Such detailed anaylsis (sic) is deemed appropriate in terms of what I understand plaintiffs' argument under Johnson v. Kosmos Portland Cement Co., 64 F.2d 193 (6th Cir. 1933), to be, namely, that an explosion was a foreseeable result even though the cause of the explosion was not. Although Johnson is clearly distinguishable on its facts, the proposition is worthy of attention.

There is no dispute among the expert witnesses that circumstances in an underground coal mine should be described as dynamic. This imports conditions subject to change, sometimes in small time frames. The value of any underground coal mine inspection is, therefore, limited to the conditions which exist at or about the time of the inspection. It

appears to be the thrust of the mandatory safety standards promulgated under the requirements of the Coal Mine Health and Safety Act of 1969, 30 U.S.C. § 801 et seq. to circumscribe known impairments to safety by federal law, or, in other words, to control aspects of such dynamic conditions. Other limitations on the dynamic conditions of an underground mine may be derived from knowledge of the mine itself. In the case of Finley Coal Company Mines 15 and 16, it is known that they were classified as "non-gassy" which eliminates methane gas as a significant factor in the mining operation, although methane had been detected [Plaintiffs' Exhibit 5, p. 2, 20]. Another factor material to the dynamic conditions of the Finley mines is the volatile ratio of the coal being mined. "Numerous tests by the Bureau of Mines have shown that coal

dust having a volatile ratio of 0.12 and higher is explosive. The volatile ratio of the coal in these mines is 0.42, indicating that the coal dust is highly explosive" [Id. at p. 3]. However, the volatile ratio of Finley coal, standing alone, is not of much asistance in understanding the mechanics of the explosion of December 30, 1970. The volatile ratio does not, for instance, significantly affect the minimum explosive concentration in terms of particle size. Minimum explosive concentration of particles, by size, does not alter the requirement of an air velocity of one hundred and fifty (150') feet per second among the particles for explosive concentration [Mitchell, Tr. E., Vol. III, at 510-511, 563]. However, given the minimal physical conditions necessary for

ignition, the volatile ratio does relate to increased probabilities for an explosion as opposed to burning of such coal dust. In short, the volatile ratio becomes significant when an explosive concentration of coal dust is raised into airborne suspension at the requisite particle velocity to support combustion. The greater the volatile ratio, the more combustible the coal dust and, hence, a greater amount of rock dusting material is required to adequately inert the coal dust present in the Finley mines, in terms of foreseeable permissible ignition sources.

The experts agree that the quantity of air displaced by falling rock from a boom hole the size of the one shot on December 30, 1970 in Mine 16, entry 6, 1 left, would have been, excluding the forces of any explosives used, one thousand two

hundred and sixty (1260) cubic feet [Mitchell, Vol. III, at 516; Sinha, Vol. I, at 182]. The speed and force of such displaced air, without consideration of explosive forces, would have been on the order of a velocity of five (5') feet per second with a force of 1/100 of a pound per square inch [psi], assuming a one hundred and eighty degree (180°) plane or direction as opposed to a lesser force dissipating on a three hundred and sixty degree (360°) plane. Since a coal mine does not present an unrestricted area for the dissipation of energy involved in displaced air, the value of 1/100 psi is reasonable [Tr. E., Vol. III, at 518, 520]. Forces of this magnitude have the capability of raising into suspension small amounts of dust within three (3') to ten (10') feet of the falling rock,

but would not be capable of maintaining dust in suspension [Id. at 521]. This dust, of course, could come from the roof, sides or floor of the mine.

Adequately inerted coal dust would be covered by a superficial layer of inert material. The feeble forces associated with falling rock from a boom hole possibly could disturb the outer layer of rock dust or, if uninerted, coal dust, but could not keep it in suspension [Id. at 522]. Given the factors of a wave front with a velocity of five (5') feet per second and a force of 1/100 psi, the necessary forces to raise an explosive concentration of coal dust with the necessary particle velocity are not shown. Further, the exposure to ignition would be about 3/10's of one millisecond from permissible explosives simultaneously detonated [Id. at 564]. There is

...

simply no evidence that forces involved in the displacement of one thousand two hundred and sixty (1260) cubic feet of air and the predictable ignition source from permissible explosives could have ignited uninerted coal dust regardless of its volatile ratio. There is a total absence of any basis from which to infer that the explosion would have occurred under normal mining practices.

I conclude that the circumstances in the Finley mines on the morning of December 30, 1970 did not amount, in plaintiffs' terms, to "an explosion waiting to happen". A boom hole could have been shot permissively without the occurrence of an explosion [Id. at 566]. Of course, good mining practice would require that no one be underground during detonation except a certified shot firer

[Id. at 538-539]. 30 C.F.R. § 15.24(b), number 14. In the history of the Finley mine, blasting was normally done during the thirty (30) minute interval between shifts when there were no men working underground [Plaintiffs' Exhibit 5, p. 7], although there was no testimony before MESA of on-shift detonations [Plaintiffs' Exhibit 4, pp. 44, 48, 49, 50, 53]. Since boom holes are necessary to the business of underground mining and act as transfer or loading points for coal from the mine face for transportation to the surface [Tr. E., Vol. IV, at 623], the boom hole shot on December 30, 1970 was not the first boom hole in the Finley mines [Plaintiffs' Exhibit 5, p. 15]. There is evidence of coal being shot on shift in a proper manner [Id. at App. F]. Considering the evidence of other detonations of explosives

underground at the Finley mines without uncontrolled propagation by ignition of coal dust, it is apparent that the volatile ratio factor standing alone has limited relevance to the cause of the explosion. Subsequent experimentation with Finley coal dust confirms this finding. Coal dust from the Finley mines was predispersed in a controlled atmosphere in precise amounts [0.3 oz/cu ft], a quantity about six (6) times the minimum concentration established by testing to be explosive. Two detonations of three (3) sticks of dynamite each were made, stemmed and unstemmed, in a cannon with the result that no ignitions of the coal dust occurred. These tests simulated shot hole detonations. One (1) stick of dynamite openly detonated in this explosive concentration atmosphere did ignite

the coal dust [Id. App. H].

The evidence which does explain the explosion is clear and convincing. It first appears that an excessive amount of permissible explosives were positioned for detonation without regard for approved practices [Tr. E., Vol. III, at 531, 537-541]. I find that at least one hundred and twenty (120) pounds of dynamite were involved in shooting the boom hole in December 30, 1970 [Id. at 530]. These explosives were stemmed with paper, a separate impermissible practice [Id. at 564], which presents the hazard of a longer lived source of open flame upon ignition [Id. at 565]. These explosives were "fused" with primacord to detonate simultaneousy [Tr. E., Vol. III, at 552-553]. Primacord is the trade name of a particular brand of high explosive which by common usage has evolved into a

generic term for all high explosives of the class appearing in physical form as a cord like substance. Primacord detonates rather than deflagrates -- it explodes rather than burns. Upon ignition the detonating velocity of primacord is about twenty thousand (20,000') feet per second, and the resulting forces are not subject to reasonable control. [Id. at 543-545].

Returning to the uncontroverted evidence of the physical requirement of particle velocity as a requisite for any coal dust explosion, the energy source capable of initiating an air velocity of one hunderd (sic) and fifty (150') feet per second among particles needs to be identified. Although no witness attempted to calculate precisely the combined forces resulting from the simultan-

eous detonations of primacord and one hundred and twenty (120) pounds of explosives, I find that such forces were sufficient to bring the coal dust into suspension, whether inerted or not, and to propel the dust particles past the threshold of requisite explosive particle velocity. At this juncture, the volatile ratio of the coal dust negated the probability of burning and insured to an almost certainty an explosion upon ignition. The igniting source I find to be the very hot gases associated with the detonation of primacord which have been measured in several thousand degrees Kelvin. In confrontation with such forces normal rock dusting would be totally ineffective. The forces attending the explosion were strong enough to blow out concrete stoppings [Plaintiffs' Exhibit 5, at 22] and the

ignition source was at least ten (10) times greater than that required for predictable ignition in terms of temperatures. By testing MESA has determined that in extreme circumstances coal dust inerted to ninety-three (93%) percent was inefficient in arresting the propagation of flame [Tr. E., Vol. III, at 560].

The technical evidence convinces me that those practices employed by the operators of the Finley mines on December 30, 1970 were totally inconsistent with any reasonable standards applicable to the use of explosives in an underground coal mine. I find no evidence upon which to find or infer that MESA could or should have known that by its failure to complete the four (4) mandatory inspections required by the Act, the mine

operators would have abandoned good mining practices and employed the inexcusable practices described in the evidence.

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF KENTUCKY
PIKEVILLE

CIVIL ACTION NO. 74-326

A. T. COLLINS, ET AL, PLAINTIFFS,

VS: MEMORANDUM OPINION

UNITED STATES OF AMERICA, DEFENDANT.

Filed November 30, 1977

Thirty-eight (38) of the thirty-nine (39) men working underground at the Finley Coal Mines 15 and 16 died as a result of an explosion on December 30, 1970 at about 12:20 P.M. The Finley mining operation was situated on Hurrican Creek, near Hyden, in Leslie County, Kentucky. This action is brought by the lone survivor and the personal representatives of the estates of twenty-five (25) of the deceased coal miners seeking money damages from the defendant, the United States of America, for the alleg-

edly negligent acts of its employees relating to the accident.

Jurisdiction is predicated upon the Federal Tort Claims Act, 28 U.S.C. §§1346(b), 2671 et seq. Trial was held without the intervention of a jury. 28 U.S.C. §1346(b).

Plaintiffs' theory of liability appears to rest upon the basic allegation that inspectors employed by the Mine Enforcement and Safety Administration (vice Bureau of Mines)[1]. of the United

---

1. The Bureau of Mines was the agency initially involved but "MESA", for convenience, is used throughout the opinion.

States Department of the Interior negligently discharged their mandatory duty to inspect the Finley mines as required by §813 of the Federal Coal Mine Health and Safety Act of 1969 [Act], 30 U.S.C. §801

et seq. The discussion of the plaintiffs' theory in terms of the evidence will be deferred until a jurisdictional issue raised by the United States has been considered.

I. JURISDICTION

The United States relies upon cases typified by Davis v. United States, 395 F.Supp. 793 (D. Neb.), aff'd per curiam 536 F.2d 758 (8th Cir. 1960). This case holds, under the common law of Nebraska, that a private citizen could not have duties arising under a federal statute and, therefore, an action arising under a claim based upon an alleged breach of a federal duty was not within the ambit of the Federal Tort Claims Act. The plaintiff's claim was based upon the allegation that a compliance officer employed by the Occupational Safety and Health Administration failed to follow

up on a safety violation noted during an inspection of an Omaha, Nebraska sewer construction project, which violation allegedly was a contributing factor in the death of plaintiff's decedent. The opinion notes that the government was "not in control or possession of the work site and no relationship by contract or otherwise between the project and the federal government existed which would place the government in the position of one responsible for the project under Nebraska law". Id. at 797.

As I understand the Davis holding, it asserts that as a matter of jurisdiction no action may be brought under the Federal Tort Claims Act except where the putative tortfeasor employee of the United States allegedly violated a duty common to private persons under local

law. Under this view no claim arising from federally engendered duties could be brought under the Act. The issue has not been addressed directly by the Sixth Circuit as far as I am able to determine.

Another line of cases reaches a contrary result; and, for the reasons which follow, I am convinced the reasoning used in these cases more persuasively disposes of the issue. In Gill v. United States, 429 F.2d 1072 (5th Cir. 1970), the fact situation involved allegations of negligence on the part of a federal air traffic controller in providing information to the pilot of a private aircraft which, allegedly, contributed to the crash of that plane and ensuing death of the pilot. The Court noted that "while principles of Texas law control, federal regulations may impose duties and standards of conduct upon the actors",

and, "the United States may be liable under the Federal Tort Claims Act for negligent provision of services upon which the public has come to rely". Id. at 1075. See also Betesh v. United States, 400 F.Supp. 238, 243 (D. D.C. 1974).

The Federal Tort Claims Act is a limited waiver of sovereign immunity, making the federal government liable to the same extent as a private party for certain torts of federal employees acting within the scope of their employment. United States v. Orleans, 425 U.S. 807, 813 (1976). Since the United States can only be sued to the extent that it has waived its immunity, Id. at 814, the asserted claim must fall within the limited scope of the Act. The government may not be held liable for acts or

omissions without fault, Laird v. Nelms, 406 U.S. 797, 799 (1972), nor does the Act encompass doctrines of negligence per se or strict liability, regardless of the fact that state law would allow such rights of action. Id. Additional liability may not attach to the United States absent a showing that the government's negligent act was the proximate cause of the plaintiff's injury. Michael v. United States, 338 F.2d 219, 110 (6th Cir. 1964). Within these general limits, the government consents, per 28 U.S.C. §1346(b), to be sued for injuries or death

> "caused by the negligent or wrongful act or omission of any employee of the Government while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred."

In the case at bar, Section 103 of the Coal Mine Health and Safety Act charges MESA personnel with the affirmative obligation to perform per year at least four (4) complete inspections of every underground coal mine. 28 U.S.C. §813(a). Defendants must discharge that duty in accordance with Kentucky common law. Gill, supra. In Kentucky, a real or legal person owes a further duty "to every person to exercise ordinary care in [its] activities to prevent any foreseeable injury from occurring to such other person". M & T Chemicals, Inc. v. Westrick, Ky., 525 S.W.2d 740, 741 (1975). By statute, Kentucky courts may take judicial notice of foreign law, KRS 422.010, and thus bring a federal standard before the courts. In Grogan v. United States, 341 F.2d 39 (6th Cir. 1965), a Federal Tort Claims Act case

arising from Kentucky, wherein the government was alleged to be liable for injuries resulting from a defective scaffold, it was held that the government's reservation of a right to inspect the scaffold did not thereby create a duty to inspect, Id. at 43. However, the Court did not question, as a jurisdictional matter, plaintiff's right to assert such putative duty.

Accordingly, I find that jurisdiction lies under 28 U.S.C. §1346(b).

II. ANALYSIS

The findings which detail the mechanics nics of the explosion are contained in an Appendix to this Memorandum Opinion. These findings may be summarized as follows. On the morning of December 30, 1970 work was begun to establish, by blasting, a loading or

transfer point in Finley Mine 16 at entry 6, 1 left. A roof bolting machine was used to drill about one hundred and twenty (120) 'shot' holes, each having a diameter of four (4") inches and extending into the roof material about thirty (30") inches. The area so drilled was eighteen (18') feet long by twenty-eight (28') feet wide. Permissible explosives were inserted into the holes and stemmed by paper. The aggregate amount of dynamite used was unusually large. Primacord, a high explosive not permissible underground, was used as the igniter and it was detonated by "either a shot firing unit, power cable, or to the battery connections of a nearby battery-powered tractor" [Plaintiffs' Exhibit 5, p. 16]. The resulting shock wave of displaced air lifted coal dust into suspension in an explosive concentration,

and the explosion occurred when the coal dust was ignited.

To state a claim for actionable negligence under Kentucky common law, plaintiffs must show, by a preponderance of the evidence, that the United States owed a duty to persons including the plaintiffs, that such duty was breached under circumstances where it was reasonably foreseeable that such breach, in this case by ommission, could pose a risk of injury or death to plaintiffs, and that such foreseeable consequences did result as a natural and probable consequence of such negligence. See Spivey v. Sheeler, Ky., 514 S.W.2d 667 (1974); Glasgow Realty Company v. Metcalfe, Ky., 482 S.W.2d 750 (1972).

Plaintiffs' theory of liabiity, as asserted in post-trial brief, argues that

MESA's failure to properly discharge its duties of inspection permitted the accumulation of inadequately inerted coal dust and that such dust propagated the explosion th ughout Mines 15 and 16 where, if such coal dust has been properly inerted, the explosion would have been a localized occurrence. However, under the Act the operator of the mine is charged with the "primary affirmative responsibility to prevent the existence of such [unsafe] conditions and practices . . .", 30 U.S.C. § 801(e). It necessarily follows that to be liable under Kentucky law, MESA would have to have known or be charged with knowledge that the operator would not obey the duties imposed upon him under the Act, as measured by what an ordinarily prudent person in the same or similar situation would have known or be charged with

knowing. Bowlin v. General Tire & Rubber Co., Ky., 445 S.W.2d 693, 695 (1969).

Plaintiffs have established that MESA failed to comply with its statutory duty of making four (4) complete inspections of the Finley mine per year. Mines 15 and 16 were opened, respectively, in March and June of 1970 [Plaintiffs' Exhibit 5, p. 3]. During this period, MESA made only one complete inspection of Mine 16 on October 19, 20-22, 1970, and one spot inspection of the same mine on October 26, 1970. Mine 15 was never completely inspected, but during the nine (9) month period between its opening and the December 30 explosion, MESA conducted six (6) spot inspections. Nevertheless, these inspections may not stand for substantial compliance with the require-

ment of complete inspections. From these inspections, a total of forty-three (43) notices or citations for violations of the Act's health and safety standards were issued to the operator by MESA inspectors [Plaintiffs' Exhibit 5, App. F]. From those citations pertaining to coal dust, plaintiffs argue that MESA was put on notice that the mine contained such "excessive" quantities of coal dust that the conditions in the Finley mines constituted "an explosion waiting to happen".

In Kentucky one may infer, without an evidentiary basis, that MESA knew or should have known that inadequately inerted coal dust would be present in the Finley mines at any given time.[2]

---

2. Bowlin, supra, at 695. Plaintiffs have the burden of presenting such evidence.

Plaintiffs presented evidence showing that on November 19, 1970, the last spot inspection of Mine 15 before the explosion, rock dusting was found to be adequate [Plaintiffs' Exhibit 5, p. 9]; "in accordance with Bureau procedures, the adequacy of rock dust applications was determined visually" [Id.]. A portable rock dusting machine was present in the mines, and when inoperable, rock dusting was performed by hand by a nine (9) man maintenance crew [Id. at 9, 10]. In the inspections of August 14 and October 19-20 and 22, 1970, inadequate rock dusting violations were cited [Act, § 304(b), 30 U.S.C. § 864(b)], but all violations were timely abated [Plaintiffs' Exhibit 5, App. F].

There is evidence that on the day of the explosion, the men working

underground were engaged in the mining of coal. From this fact, it may be inferred that coal dust was produced as a by-product of the mining operation. However, it requires further circumstantial evidence to infer that the amount of coal dust was excessive or that it was inadequately inerted.

Plaintiffs' evidence reveals that the normal business at the Finley mines was conducted by two mining shifts and one maintenance shift. The average daily production was fifteen hundred (1500) tons of coal [Plaintiffs' Exhibit 5, p. 2]. Rock dusting operations were performed by the maintenance crew on the last shift of each day. Each morning then began with a production shift [Id., App. F]. Thus, one may infer from such past practice that it is more probable

than not that the mine was rock dusted on the morning of December 30, 1970. The Fire Boss' book was not introduced into evidence, although it is the record diary of a coal operator as to what was actually done, by shift, underground. KRS 352.380 and 352.290. See also 30 C.F.R. § 75.1800 et seq.

The foreseeability test employed in Kentucky, in terms of a negligently created condition, fixes liability for those consequences which "might and ought to be foreseen by the wrongdoer as likely to flow from his act". Spivey v. Sheeler, supra. From the foregoing evidence, I find no basis on which to conclude that MESA's failure to perform the required number of inspections of the Finley mines resulted in the existence of excessive coal dust on the date of the explosion, nor does the evidence permit

the inference that MESA should have foreseen the existence of allegedly excessive and inadequately inerted coal dust in the mine on December 30, 1970.

It appears to be plaintiffs' argument that the desired conclusion of excessive coal dust is justified by the fact of the explosion per se, under the rationale that if there had not been excessive coal dust in the mine, the explosion would not have occurred or would not have been localized. The evidence does not permit such a simple answer to the problem. The concept of "excessive amounts of dust" was defined by regulation [30 C.F.R. 75-400-1][3] as

---

3. This regulation has been held invalid, United States v. Finley Coal Co., 493 F.2d 285, 291 (6th Cir. 1974), cert. denied 419 U.S. 1089 (1974).

"coal and float dust in the air in such

amounts as to create the potential of an explosion hazard" [emphasis added]. The Coal Mine Inspector's Manual, edition of August 1969 [Plaintiffs' Exhibit 9] does not address the question of excessive coal dust directly but rather the adequacy of inerted coal dust in terms of "observable inadequately inerted coal dust" [Id. at p. 51]. The manual goes no further. By evidence it is shown that the industry standard as to excessive coal dust at the time was in terms of that amount of coal dust in the air which would prevent one from seeing the light from a cap lamp eight (8) feet away [Tr.E., Vol. * * * , at 573]. The issues with respect to coal dust bottom out on two basic considerations: (1) the amount of coal dust in the air in such quantity as to be deemed excessive, and (?) the

adequacy of inerting coal dust on all surfaces of the underground mine which is measured by observation, or, by turning such surfaces white by application of rock dust.

The evidence establishes without contradiction that 5/100 of an ounce of coal dust per cubic foot of air will support combustion [Tr. E., Vol. III, at 555]. This comports with the regulation standard, supra, but makes use of the word 'excessive' somewhat difficult to understand. The word "excessive" by custom and practice of the industry relates to a cloud of dust so dense that it obscures light from a cap lamp at eight (8') feet. This standard simply does not relate to explosion potential. Going further, the evidence shows that the government's expert witness, Donald W.

Mitchell, actually used a vacuum cleaner on a portion of a different mine and after it was cleaned found sufficient quantities of residual coal dust to propagate an explosion [Tr. E., Vol. III, at 559]. In terms of applying labels, one would have to conclude that the vacuumed mine contained "excessive" amount of coal dust where "excessive" describes that quantity of coal dust creating the potential of explosion. By parity of reasoning, every coal mine in which coal has been mined would contain an excessive amount of coal dust as a matter of probability. Thus, plaintiff's unquantified, standard, "excessive", has no substantial meaning under the evidence presented in this case.

The invalidated federal standard for inerting coal dust required that at least sixty-five (65%) percent inert material,

typically lime-stone rock dust, be applied. 30 C.F.R. § 75.403. However, as noted previously, MESA inspectors determine the adequacy of rock dusting by visual examination [Plaintiffs' Exhibit 9, p. 52]. Had MESA made timely inspections of the Finley mines and cited the operator for dust violations, such violations simply would be abated by the application of adequately inerting quantities of rock dust. 30 U.S.C. § 864; 30 C.F.R. § 75.403.

Notwithstanding the above standards, the experts in this action agree that conditions in an underground mine are dynamic [Dr. Sinha, Tr. E., Vol. II, at 216; Mr. Mitchell, Tr. E., Vol. IV, at 597]. The amount of coal production appears to be related to the generation of coal dust [Mitchell, Tr. E., Vol. IV,

at 598-599]. The dust at one point in time does not preclude an unsafe condition arising shortly thereafter from subsequently generated coal dust. The evidence does not suggest when MESA should have inspected the mines if it had complied with the requirements of Section 813(a) of the Act; such inspections under the evidence of this case are material to underground mine conditions only at the time they are made and quickly lose any safety significance because of the dynamic conditions of underground mining. Thus, at the outer limit MESA personnel could be chargeable only with foreseeing those circumstances arising within a reasonable time after such inspection. For the reasons which follow, I find that MESA inspectors cannot be held to have reasonably anticipated the actions of the operator of the Finley mine which precip-

itated the explosion of December 30, 1970, or the equally unreasonable act of the operator in permitting men underground at a time when an impermissible ignition of high explosive was initiated [see Plaintiffs' Exhibit 5, p. 25].

The shooting of a boom hole in an underground mine is an ordinary and recurring aspect of coal mining. However, there is no evidence tending to show that the boom hole blasting activities of December 30, 1970 could be described as ordinary or typical. The abnormal aspects of the procedures include the excessive quantity of permissible explosives employed, the impermissible use of paper stemming, the failure to have sequential firing where a substantial amount of powder is involved

and the use of an impermissible high explosive as the igniter of the permissible explosives. I find no evidence that any of these aspects of the explosion sequence were foreseeable by MESA; they are clearly beyond the ambit of dynamic occurrences inherent in the Finley mines. Accordingly, I am convinced by the evidence and all of the circumstances of this case that but for the use of primacord in conjunction with excessive amounts of dynamite, the explosion complained of would not have occurred. I find no evidence tending to support the proposition that such an explosion would have occurred had approved procedures and proper explosives been used to shoot the boom hole.

Although it is not known how much coal dust was present before the explosion (and I find no basis to support any

inference other than one finding that at least the minimum explosive concentration of 5/100 of an ounce of coal dust per cubic foot of air was present), there is simply no evidence that such coal dust was present in excessive amounts as that term is used within the mining industry. It is not known nor can one infer from the evidence that the coal dust was in fact adequately rock dusted at the beginning of the morning production shift on December 30, 1970 but MESA's post-accident investigation revealed that some rock dust had been applied in the area where the explosion originated [Plaintiffs' Exhibit 5, pp. 20, 21]. Nevertheless, under the evidence I find that the explosion would have occurred even if the coal dust present in the mine had been adequately inerted. The reasons

for this conclusion are more fully discussed in the Appendix, but it may be stated here that the high velocity of air displaced by detonation of the particular explosive materials employed would necessarily have created a shock wave of sufficient speed and force to have brought adequately inerted coal dust into airborne suspension at a particle velocity sufficient to sustain combustion, and the resulting high temperatures, measured in several thousand degrees Kelvin[4.], were sufficient to ignite such

---

4. Kelvin refers to an absolute temperature scale in which zero Kelvin is equivalent to -372° (sic) C; the freezing point of water is 273° K and the boiling point of water is 373° K.

---

airborne coal dust. This clearly would not have been the circumstance attending the weaker ignition sources normally used in shooting boom holes in a permissible

manner in an underground coal mine.

I can find no basis upon which to conclude that MESA inspectors knew or should have known of the wholly irregular practices employed underground at the Finley mines on December 30, 1970.[5] The

---

5. The parties have stipulated, Tr. E., Vol. IV., at 678, that MESA inspectors never found any primacord underground prior to the explosion.

---

presence of primacord above ground will not support an inference that it was being used underground [Tr. E., Vol. III, at 545]. All witnesses agree that primacord should not be used in an underground coal mine [Tr. E., Vol. II, at 140; Vol. III, at 544-546]. Even if one should conclude, arguendo, that MESA's failure to inspect was somehow causally connected with the explosion, the abnormal and impermissible practices of the operator

were such as to constitute unforeseeable acts of intervening negligence which superseded any negligence of the MESA inspectors. Hall v. Midwest Bottled Gas Distributors, Inc., Ky., 532 S.W.2d 449 (1975); Lexington Country Club v. Stevenson, Ky., 390 S.W.2d 137, 141 (1965); see also House v. Kellerman, Ky., 519 S.W.2d 390 (1965).

Accordingly, judgment shall be for the defendant and entered by separate order.

This the 30 day of November, 1977.

/s/ H. DAVID HERMANSDORFER, JUDGE

APPENDIX

This appendix is a further statement and analysis of the fact finding responsibility of the Court and is limited to the more technical aspects of the evidence. All of the evidence has been carefully reviewed and the data discussed below are derived principally from the Official Report of Major Mine Explosion Disaster [Plaintiffs' Exhibit 5]; the testimony of Donald William Mitchell, Chief of MESA's Approval and Certification Center and the testimony of Dr. Atmesh Kumar Sinha, Associate Professor, Mining Engineering, Southern Illinois University. My primary areas of concern are to determine the sequential step mechanics of the explosion in terms of the differences between what would have occurred if excessive permissible explosives and primacord had not been

used and what did occur employing these explosives. Such detailed anaylsis (sic) is deemed appropriate in terms of what I understand plaintiffs' argument under Johnson v. Kosmos Portland Cement Co., 64 F.2d 193 (6th Cir. 1933), to be, namely, that an explosion was a foreseeable result even though the cause of the explosion was not. Although Johnson is clearly distinguishable on its facts, the proposition is worthy of attention.

There is no dispute among the expert witnesses that circumstances in an underground coal mine should be described as dynamic. This imports conditions subject to change, sometimes in small time frames. The value of any underground coal mine inspection is, therefore, limited to the conditions which exist at or about the time of the inspection. It

appears to be the thrust of the mandatory safety standards promulgated under the requirements of the Coal Mine Health and Safety Act of 1969, 30 U.S.C. § 801 et seq. to circumscribe known impairments to safety by federal law, or, in other words, to control aspects of such dynamic conditions. Other limitations on the dynamic conditions of an underground mine may be derived from knowledge of the mine itself. In the case of Finley Coal Company Mines 15 and 16, it is known that they were classified as "non-gassy" which eliminates methane gas as a significant factor in the mining operation, although methane had been detected [Plaintiffs' Exhibit 5, p. 2, 20]. Another factor material to the dynamic conditions of the Finley mines is the volatile ratio of the coal being mined. "Numerous tests by the Bureau of Mines have shown that coal

dust having a volatile ratio of 0.12 and higher is explosive. The volatile ratio of the coal in these mines is 0.42, indicating that the coal dust is highly explosive" [Id. at p. 3]. However, the volatile ratio of Finley coal, standing alone, is not of much asistance in understanding the mechanics of the explosion of December 30, 1970. The volatile ratio does not, for instance, significantly affect the minimum explosive concentration in terms of particle size. Minimum explosive concentration of particles, by size, does not alter the requirement of an air velocity of one hundred and fifty (150') feet per second among the particles for explosive concentration [Mitchell, Tr. E., Vol. III, at 510-511, 563]. However, given the minimal physical conditions necessary for

ignition, the volatile ratio does relate to increased probabilities for an explosion as opposed to burning of such coal dust. In short, the volatile ratio becomes significant when an explosive concentration of coal dust is raised into airborne suspension at the requisite particle velocity to support combustion. The greater the volatile ratio, the more combustible the coal dust and, hence, a greater amount of rock dusting material is required to adequately inert the coal dust present in the Finley mines, in terms of foreseeable permissible ignition sources.

The experts agree that the quantity of air displaced by falling rock from a boom hole the size of the one shot on December 30, 1970 in Mine 16, entry 6, 1 left, would have been, excluding the forces of any explosives used, one thousand two

hundred and sixty (1260) cubic feet [Mitchell, Vol. III, at 516; Sinha, Vol. I, at 182]. The speed and force of such displaced air, without consideration of explosive forces, would have been on the order of a velocity of five (5') feet per second with a force of 1/100 of a pound per square inch [psi], assuming a one hundred and eighty degree (180°) plane or direction as opposed to a lesser force dissipating on a three hundred and sixty degree (360°) plane. Since a coal mine does not present an unrestricted area for the dissipation of energy involved in displaced air, the value of 1/100 psi is reasonable [Tr. E., Vol. III, at 518, 520]. Forces of this magnitude have the capability of raising into suspension small amounts of dust within three (3') to ten (10') feet of the falling rock,

but would not be capable of maintaining dust in suspension [Id. at 521]. This dust, of course, could come from the roof, sides or floor of the mine.

Adequately inerted coal dust would be covered by a superficial layer of inert material. The feeble forces associated with falling rock from a boom hole possibly could disturb the outer layer of rock dust or, if uninerted, coal dust, but could not keep it in suspension [Id. at 522]. Given the factors of a wave front with a velocity of five (5') feet per second and a force of 1/100 psi, the necessary forces to raise an explosive concentration of coal dust with the necessary particle velocity are not shown. Further, the exposure to ignition would be about 3/10's of one millisecond from permissible explosives simultaneously detonated [Id. at 564]. There is

simply no evidence that forces involved in the displacement of one thousand two hundred and sixty (1260) cubic feet of air and the predictable ignition source from permissible explosives could have ignited uninerted coal dust regardless of its volatile ratio. There is a total absence of any basis from which to infer that the explosion would have occurred under normal mining practices.

I conclude that the circumstances in the Finley mines on the morning of December 30, 1970 did not amount, in plaintiffs' terms, to "an explosion waiting to happen". A boom hole could have been shot permissively without the occurrence of an explosion [Id. at 566]. Of course, good mining practice would require that no one be underground during detonation except a certified shot firer

[Id. at 538-539]. 30 C.F.R. § 15.24(b), number 14. In the history of the Finley mine, blasting was normally done during the thirty (30) minute interval between shifts when there were no men working underground [Plaintiffs' Exhibit 5, p. 7], although there was no testimony before MESA of on-shift detonations [Plaintiffs' Exhibit 4, pp. 44, 48, 49, 50, 53]. Since boom holes are necessary to the business of underground mining and act as transfer or loading points for coal from the mine face for transportation to the surface [Tr. E., Vol. IV, at 623], the boom hole shot on December 30, 1970 was not the first boom hole in the Finley mines [Plaintiffs' Exhibit 5, p. 15]. There is evidence of coal being shot on shift in a proper manner [Id. at App. F]. Considering the evidence of other detonations of explosives

underground at the Finley mines without uncontrolled propagation by ignition of coal dust, it is apparent that the volatile ratio factor standing alone has limited relevance to the cause of the explosion. Subsequent experimentation with Finley coal dust confirms this finding. Coal dust from the Finley mines was predispersed in a controlled atmosphere in precise amounts [0.3 oz/cu ft], a quantity about six (6) times the minimum concentration established by testing to be explosive. Two detonations of three (3) sticks of dynamite each were made, stemmed and unstemmed, in a cannon with the result that no ignitions of the coal dust occurred. These tests simulated shot hole detonations. One (1) stick of dynamite openly detonated in this explosive concentration atmosphere did ignite

the coal dust [Id. App. H].

The evidence which does explain the explosion is clear and convincing. It first appears that an excessive amount of permissible explosives were positioned for detonation without regard for approved practices [Tr. E., Vol. III, at 531, 537-541]. I find that at least one hundred and twenty (120) pounds of dynamite were involved in shooting the boom hole in December 30, 1970 [Id. at 530]. These explosives were stemmed with paper, a separate impermissible practice [Id. at 564], which presents the hazard of a longer lived source of open flame upon ignition [Id. at 565]. These explosives were "fused" with primacord to detonate simultaneously [Tr. E., Vol. III, at 552-553]. Primacord is the trade name of a particular brand of high explosive which by common usage has evolved into a

generic term for all high explosives of the class appearing in physical form as a cord like substance. Primacord detonates rather than deflagrates -- it explodes rather than burns. Upon ignition the detonating velocity of primacord is about twenty thousand (20,000') feet per second, and the resulting forces are not subject to reasonable control. [Id. at 543-545].

Returning to the uncontroverted evidence of the physical requirement of particle velocity as a requisite for any coal dust explosion, the energy source capable of initiating an air velocity of one hunderd (sic) and fifty (150') feet per second among particles needs to be identified. Although no witness attempted to calculate precisely the combined forces resulting from the simultan-

eous detonations of primacord and one hundred and twenty (120) pounds of explosives, I find that such forces were sufficient to bring the coal dust into suspension, whether inerted or not, and to propel the dust particles past the threshold of requisite explosive particle velocity. At this juncture, the volatile ratio of the coal dust negated the probability of burning and insured to an almost certainty an explosion upon ignition. The igniting source I find to be the very hot gases associated with the detonation of primacord which have been measured in several thousand degrees Kelvin. In confrontation with such forces normal rock dusting would be totally ineffective. The forces attending the explosion were strong enough to blow out concrete stoppings [Plaintiffs' Exhibit 5, at 22] and the

ignition source was at least ten (10) times greater than that required for predictable ignition in terms of temperatures. By testing MESA has determined that in extreme circumstances coal dust inerted to ninety-three (93%) percent was inefficient in arresting the propagation of flame [Tr. E., Vol. III, at 560].

The technical evidence convinces me that those practices employed by the operators of the Finley mines on December 30, 1970 were totally inconsistent with any reasonable standards applicable to the use of explosives in an underground coal mine. I find no evidence upon which to find or infer that MESA could or should have known that by its failure to complete the four (4) mandatory inspections required by the Act, the mine

operators would have abandoned good mining practices and employed the inexcusable practices described in the evidence.

UNITED STATES COURT OF APPEALS

FOR THE SIXTH CIRCUIT

No. 78-3125

A. T. COLLINS, ET AL.,
Plaintiffs-Appellants,

v.

UNITED STATES OF AMERICA,
Defendant-Appellee.

Before: CELEBREZZE and BROWN, Circuit Judges, and PHILLIPS, Senior Circuit Judge.

Filed May 22, 1980

JUDGMENT

APPEAL from the United States District Court for the Eastern District of Kentucky.

THIS CAUSE came on to be heard on the record from the United States District Court for the Eastern District of Kentucky and was argued by counsel.

ON CONSIDERATION WHEREOF, It is now here ordered and adjudged by this Court

that the judgment of the said District Court in this cause be and the same is hereby affirmed.

No costs taxed. The parties will bear their own costs on this appeal.

ENTERED BY ORDER OF THE COURT.

/s/ John P. Helman, Clerk

No. 78-3125

UNITED STATES COURT OF APPEALS

FOR THE SIXTH CIRCUIT

A. T. COLLINS, ET AL., Plaintiffs-Appellants, v. UNITED STATES OF AMERICA, Defendant-Appellee.	ORDER DENYING PETITION FOR REHEARING

Filed June 16, 1980

Before CELEBREZZE and BROWN, Circuit Judges, and PHILLIPS, Senior Circuit Judge.

Upon consideration, it is ORDERED that the petition for rehearing be and hereby is denied.

Entered by order of the court.

/s/ John P. Helman, Clerk